UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/572,820	03/22/2006	Cristina Gomilla	PU030274	3729

24498 7590 12/08/2009

Robert D. Shedd, Patent Operations
THOMSON Licensing LLC
P.O. Box 5312
Princeton, NJ 08543-5312

EXAMINER	
BLOOM, NATHAN J	

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
12/08/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/572,820	GOMILLA ET AL.	
	Examiner	Art Unit	
	NATHAN BLOOM	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Applicants' response to the last Office Action, filed on August 19th, 2009 has been entered and made of record.

Terminal Disclaimer

2. The terminal disclaimer filed on 08/19/2009 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/575676 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Arguments and Amendments

3. The 35 USC 101 rejection of claims 1-14 has been withdrawn since the claimed process is clearly performing the transformation (blending image with film grain block) of an object (image data).

4. Applicant's arguments filed 08/19/2009 have been fully considered but they are not persuasive.

5. Applicant's have argued on page 3 that Schlockermann in view of Gomila has not taught the selection of a film grain block from a pool of film grain blocks. However, Gomila has clearly taught the selection of a film grain pattern (block) from a database (pool) of film grain patterns in paragraphs 2 of section 3.1. This may have been unclear from the previously presented rejection of the claims, but Examiner has included these further details in the discussion of the claim rejections presented below.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schlockermann et al. ("Film Grain Coding in H.264/AVC") in further view of Gomila ("SEI Message for Film Grain Encoding: Syntax and Results").

Instant claim 1: A method for simulating film grain in an input image block, in which film grain has been at least partially filtered out, comprising the steps of:

(a) computing an average value of at least one image parameter for the block;

[*Schlockermann has taught film grain coding using parameters of the block based on local statistics (section 2.2) and the transmission of this information via an SEI message, but does not detail what the local statistics or parameters are. However, as part of the same project (Joint Video Team of ISO/IEC MPEG & ITU-T VCEG), Schlockermann has cited Gomila whom further details the local statistics that are used as parameters for the block. Gomila has taught the syntax and details of the SEI message and block parameters on pages 2-4, and has taught on page 3 lines 9+ that the average intensity of the blocks (b_{avg}) is determined to represent all the pixels in a block. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the SEI message and block parameterization details of Gomila with the film*

grain coding method of Schlockermann since the two methods have been specifically designed to work together.]

(b) selecting a film grain block from at least one previously established pool of film grain blocks whose image parameter most closely matches the image parameter of the input image block; [*Schlockermann has taught in section 2.2 and figure 2 the film grain block generation process and Gomila has taught the selection of the block from a database of film grain patterns (section 3.1 paragraph 2 of Gomila).*]

(c) blending the selected film grain block with the input image block. [*Schlockermann mentions the blending and shows examples and results, but does not detail the process. However, Gomila has described the blending (including equations) on page 3 (equations 1 and 2).*]

Instant claim 2: The method according to claim 1 further comprising the step of de-blocking the selected film grain block prior to blending with the input image block. [*Gomila has taught on page 4 lines 34-35 that the blocks are filtered to reduce blockiness.*]

Instant claim 3: The method according to claim 1 wherein the previously established film grain blocks are organized in the at least one pool based on image intensity. [*Film grain blocks are parameterized and placed ("organized") into pools (See Schlockermann and Gomila) based on the parameters of the film grain pattern.*]

Instant claim 4: The method according to claim 1 further including the step of updating the at least one pool in accordance with characteristics of the input image. [*Schlockermann has taught modifying the film grain blocks by an intensity value "a" that is based on the intensity of the input image, and Gomila has taught in section 3.2 paragraph 1 the modification of the film grain size, intensity, spatial correlation, color correlation, as well as other parameters.*]

Instant claim 5: The method according to claim 3 where a different film grain block is selected for at least one of a different color component. [*The color space and the parameterization of film grain blocks for each color is taught in section 3 of Gomila by the parameter flags for each color component (param[c][i][j]).*]

Instant claim 6: The method according to claim 1 further including the step of transforming the selected block prior to the blending step. [*Blocks are decoded prior to the blending step, see equations 1 and 2 of Gomila ($I_{decoded}$).*]

Instant claim 7: The method according to claim 1 further comprising the step of selecting a film grain block from among a plurality of pools of film grain blocks. [*As per the discussion above, the film grain blocks are also parameterized by a plurality of colors (blocks are divided by color).*]

Instant claim 8: A method for simulating film grain in an input image from which the film grain has at least been attenuated and been decomposed in into input image blocks, comprising the steps of:

(a) selecting a successive one of a set of input image blocks; [*The extraction and encoding of film (series of successive image data) that is broken down into blocks (images are thus a succession of blocks) has been taught by Schlockermann in section 1.*]

(b) computing an average value of at least one image parameter for the successive block; [*As per the discussion of claim 1 the determination of average parameters for each block in order to select a previously established film grain model has been taught by Schlockermann in view of Gomila).*]

(c) selecting, from among at least one pool of previously established film grain blocks, a film grain block having image parameter most closely matches the average value of the at least one image parameter of the successive block; [*See the discussion of claim 1.*]

(d) repeating steps (a)-(c) for all the pixel blocks in the image; and [*Additionally, Schlockermann has taught that this method is performed for all macroblocks of the image (section 1).*]

(e) blending the selected film grain blocks to yield an output image with film grain. [*See the discussion of claim 1.*]

Instant claim 9: The method according to claim 8 wherein the previously established film grain blocks are organized in the at least one pool based on image intensity. [*As per the discussion of claim 3 this limitation has been taught.*]

Instant claim 10: The method according to claim 8 further including the step of updating the at least one pool of pre-established film grain blocks in accordance with characteristics of the input image. [*Schlockermann has taught modifying the film grain blocks by an intensity value "a" that is based on the intensity of the input image, and Gomila has taught in section 3.2 paragraph 1 the modification of the film grain size, intensity, spatial correlation, color correlation, as well as other parameters.*]

Instant claim 11: The method according to claim 8 where a different film grain block is selected for at least one of a different color component. [*The color space and the parameterization of film grain blocks for each color is taught in section 3 of Gomila by the parameter flags for each color component (param[c][i][j]).*]

Instant claim 12: The method according to claim 7 further including the step of transforming the selected block prior to repeating steps (c)-(d). [*As per the above discussion of claim 8 and the teachings of Gomila (see claim 6) wherein the transformation of at least the current block is performed prior to the blending.*]

Instant claim 13: The method according to claim 8 further comprising the step of selecting a film grain block from among a plurality of pools of film grain blocks. [*See the discussion of claim 7.*]

Instant claim 14: The method according to claim 8 further comprising the step of de-blocking the successive film grain block prior to repeating steps (c)-(d). [*Gomila has taught on page 4 lines 34-35 that the blocks are filtered to reduce blockiness.*]

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Bloom whose telephone number is 571-272-9321. The examiner can normally be reached on Monday through Friday from 10:00 am to 6:30 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Bhavesh M Mehta/

Supervisory Patent Examiner, Art Unit 2624